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FABIO CASSOLA* & DAVID L. PEARSON**

REVISION OF THE SOUTH AMERICAN TIGER BEETLE COMPLEX OF *BRASIELLA BALZANI* (W. HORN) (COLEOPTERA: CICINDELIDAE)

INTRODUCTION - The tiger beetle species *Cicindela balzani* was first described by HORN (1899) from two female specimens, one from Ecuador (present in W. Horn's collection, Deutsches Entomologisches Institut, Eberswalde, Germany: DÖBLER 1973) and the other from northern Bolivia (present in the collection of the Museo Civico di Storia Naturale "G. Doria", Genova, Italy). Later HORN (1925) described the form *rotundatodilatata* as a subspecies of *balzani*, based on seven specimens from southern Bolivia (depository unknown). Subsequently HORN (1931) determined that the nominate form was in reality known from Ecuador only ("Von der Prioritätsform der *Cicindela Balzani* W. Horn hatte ich früher angegeben, dass sie auch in Bolivien vorkäme. Die betreffenden Exemplare gehören jedoch zu der dlt.-Form *rotundato-dilatata*, während mir die Stammform mit schmaler Bindenzeichnung bisher nur von Equador bekannt geworden ist"). The original description of *rotundatodilatata* pointed out that it differs from *balzani* by a broader pronotum with more rounded sides, less parallel-sided elytra and a much more extensive and different pattern of maculations (Figs. 1,2). The ground color is also decidedly lighter both dorsally and ventrally. Genitalia were evidently not compared, and no argument was included to justify why two such differently appearing forms should be considered as only subspecies.

SCHILDER (1953) included both forms in the genus *Cicindosa* Motschulsky, 1864 (presently a junior synonym of *Cylindera* Westwood, 1831). RIVALIER (1954, 1955) provisionally ascribed *balzani* to the his newly described genus *Brasiella*

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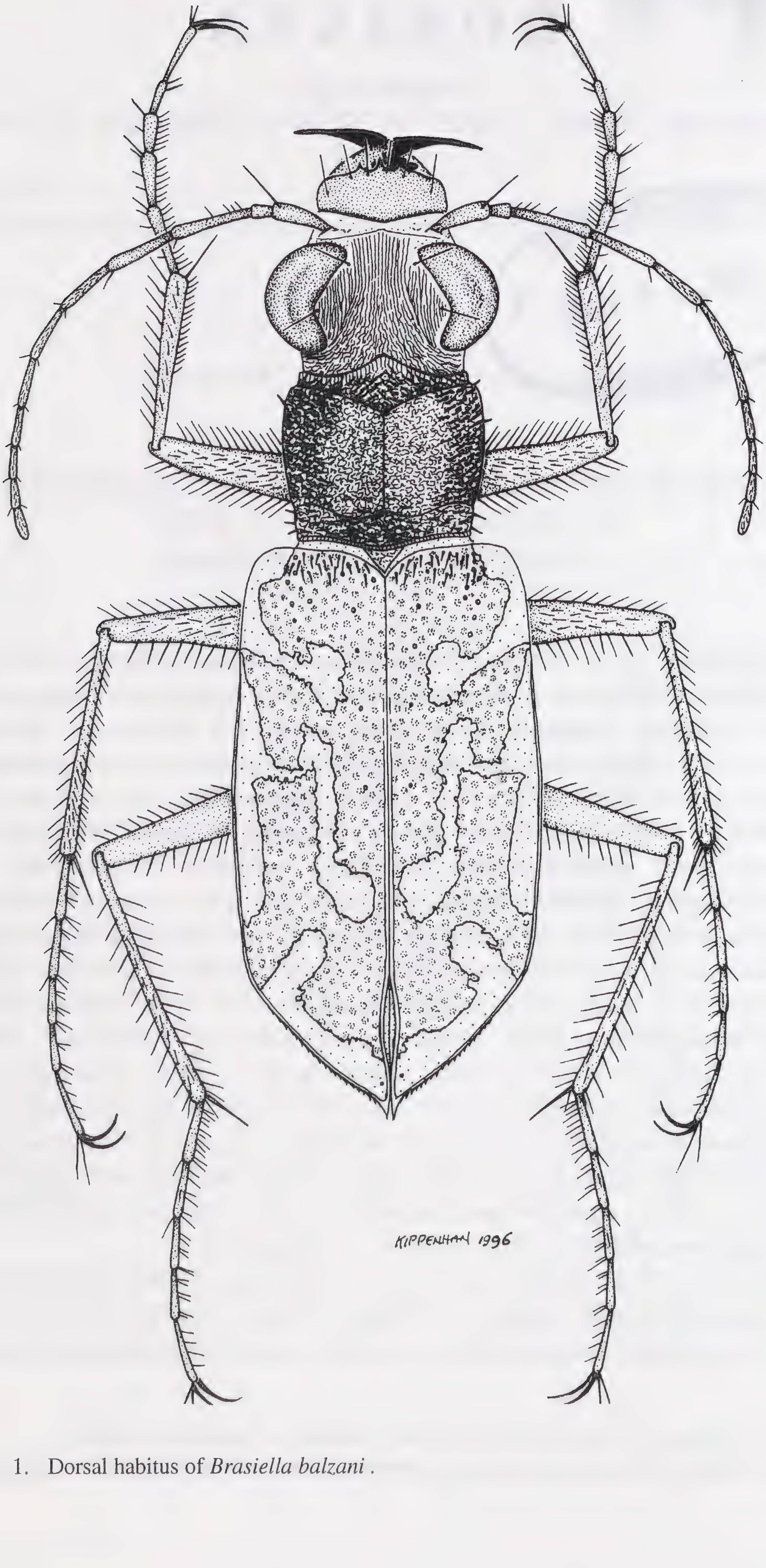

Figure 1. Dorsal habitus of *Brasiella balzani* .

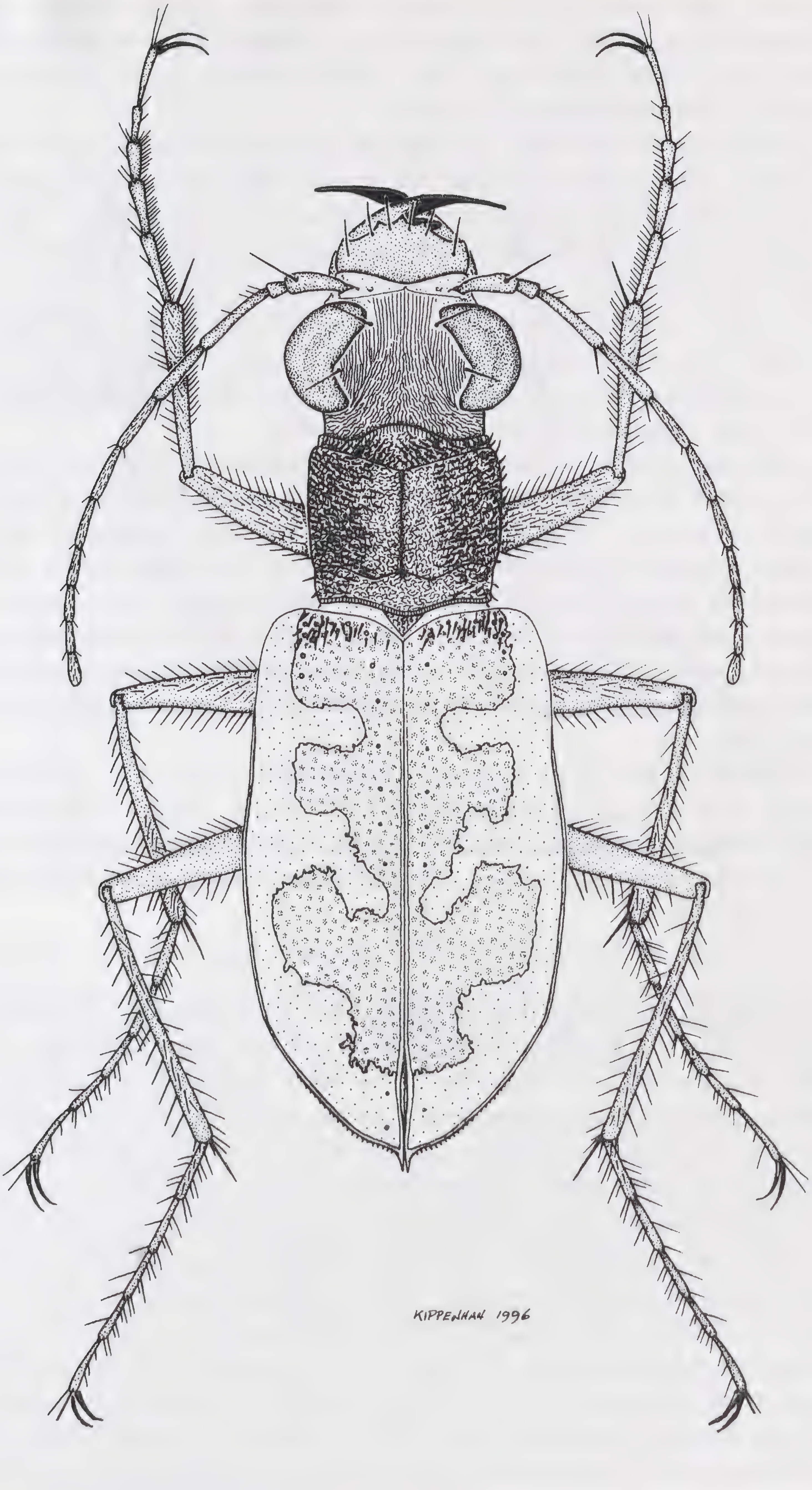

Figure 2. Dorsal habitus of *Brasiella rotundatodilatata*.

Rivalier, 1954, but FREITAG & BARNES (1989) returned *balzani* to the genus *Cicindela* Linné, 1758, with *Brasiella* as a subgenus. More recently WIESNER (1992) again listed *balzani* and ssp. *rotundatodilatata* in the separate genus *Brasiella*, within the subtribe Cicindelina.

Few records for either form are available in subsequent entomological literature. HORN (1931) and MANDL (1958) indicated an additional locality for *rotundatodilatata* in Bolivia, and more specimens of *balzani* have been recorded from a few locations in Ecuador (NUÑEZ *et al.* 1995) and one locality in southern Peru (MANDL 1941). FERNANDEZ *et al.* (1994) indicated that *balzani* likely occurs in Colombia too, but as of yet there are no known specimens. FREITAG & BARNES (1989) hinted at a reason that so few specimens of these forms were available for study. All the known records are from only a narrow band between the base of the eastern slope of the Andes Mountains and the Amazon rain forest.

After eight years of extensive collecting in Ecuador and Bolivia, much longer series of both *balzani* and *rotundatodilatata* have recently become available for study (GUERRA *et al.* 1997). Moreover, in the course of the present study, the female type specimen of *balzani* from the collection of the Museo Civico di Storia Naturale "G. Doria", Genova, Italy (MSNG), was examined, and because it was originally collected by Luigi Balzan (to whom Walther Horn had dedicated the species) and it appears to bear complete locality data (unlike the Eberswalde specimen, which is just labelled "Ecuador": DÖBLER 1973), it is herein designated to be the species' lectotype.

The goal of this article is to test whether these forms show consistent and distinct morphological character differences, exhibit zones of intergradation, display habitat differences or behavior that could robustly establish whether or not they should be considered subspecies of the same form or should be elevated to separate species.

MORPHOLOGICAL CHARACTERS AND TAXONOMY - The distinctive pattern of the elytral markings (Figs. 1,2) of *balzani* and *rotundatodilatata* is immediately recognizable and separable in the field. Moreover, the lighter, more cupreous ground color of *rotundatodilatata* generally separates it from the much darker, more greenish or blackish, *balzani*. Only in the case of unusually light populations of *balzani* from northern Bolivia (Department of Beni) and a single aberrant dark metallic green individual of *rotundatodilatata* from central Bolivia is this ground color differentiation not obvious. Alternative morphological characters to distinguish the two forms, however, are more ambiguous. The broader pronotum with more rounded sides and the less parallel-sided elytra, which HORN (1925) emphasized in his description of *rotundatodilatata*, are generally effective but not always reliable on their own. The elytral shape in combination with the elytral markings and the average total length (vertex to apex) of *rotundatodilatata* (mean = 8.99 mm, s.d. = 0.49, minimum length = 8.41 mm, maximum length = 9.68 mm),

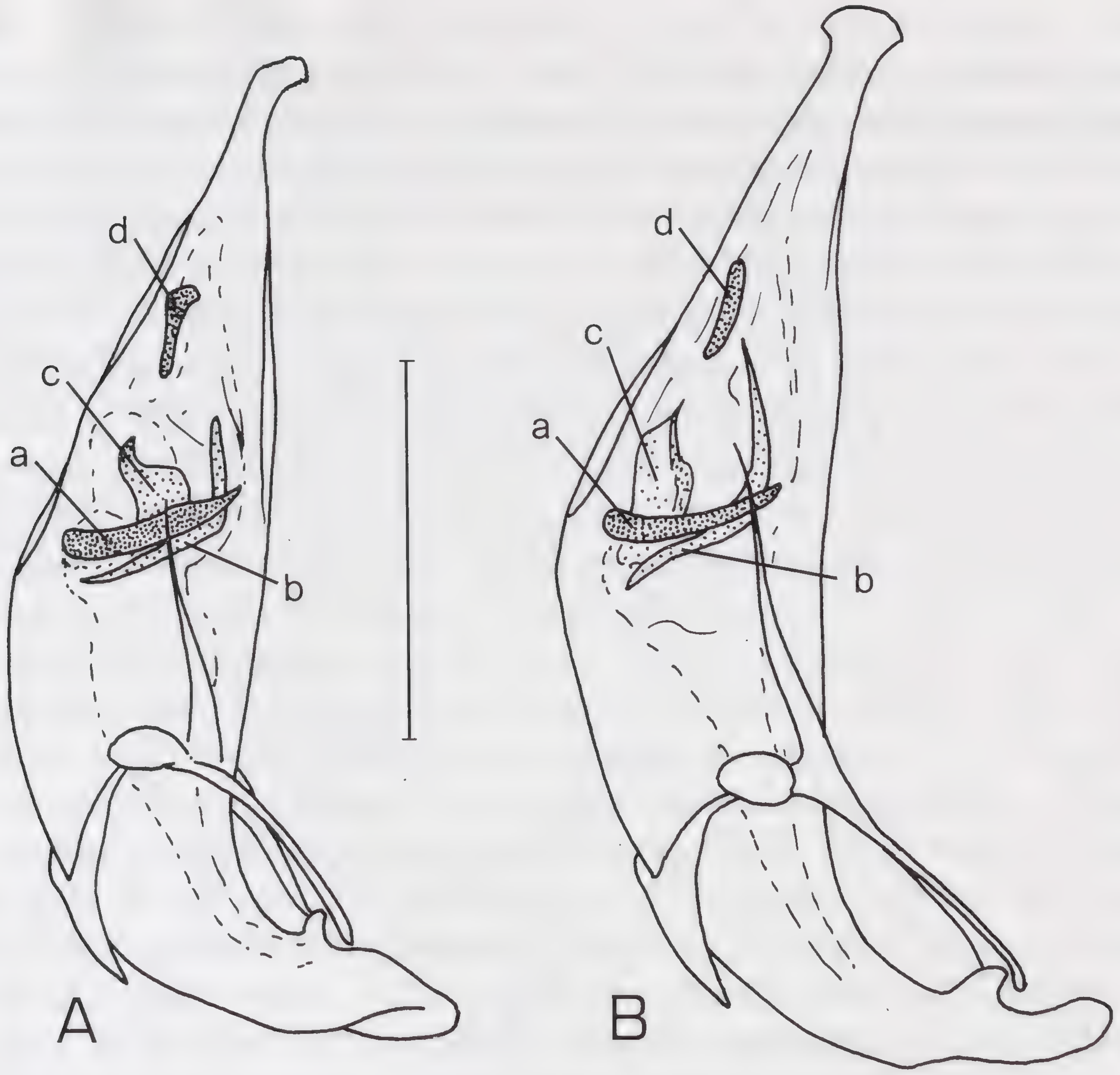

Figure 3. Genitalia of male *Brasiella balzani* (A) and *Brasiella rotundatodilatata* (B): a. arciform piece, b. stylet, c. shield, d. "stick". Scale-line: 1 mm.

which is almost always greater than that of *balzani* (mean = 7.97 mm, s.d. = 0.36, min = 7.30 mm, max = 8.57 mm), however, are reliable for distinguishing the two forms. The females of both forms unfortunately lack any mesepisternal coupling sulci, which in many other tiger beetle groups is often distinctive for discriminating similarly-looking species.

Examination of male genitalia showed subtle but consistent differences. The aedeagus of both species is tapering, with a straight elongate apex and a large dorsal opening which occupies nearly all the apical half of the aedeagus length. However, the aedeagus of *balzani* is slightly smaller in proportion and moreover it terminates in a small narrow ventral hook, slightly curved downwards, while that of *rotundatodilatata* exhibits a larger "crest", narrowly but distinctly protruding on both the ventral and dorsal sides (Fig. 3a, b). The inner sac of both forms is clearly of the *Brasiella* type: it is relatively voluminous, devoid of any flagellum, and with an arciform piece broad and transverse placed across the left side of the aedeagus (slightly above the middle). However, it differs from that of most other *Brasiella* species in several details: the dorsal forked piece that RIVALIER (1953) called "bouclier", and that FREITAG & BARNES (1989) have rebaptised "shield", is smaller, poorly sclerified and less apparent. The "stylet" below it is broader, longer and clearly bent in the middle, and a small additional sclerite (the "stick") is vertically placed on the dorsal side towards the apex of the sac. Slight but significant differences in these inner sac pieces are noticeable between *balzani* and *rotundatodilatata*. The stylet of *balzani* is shorter and narrower and the stick is broadened apically, somewhat resembling the shape of the head of a golf stick (Fig. 3a, b).

These two species are distinguished from all other South American *Brasiella* relatives by the large setae at the base (anterior) of the elytra and the simplified inner sac of the male aedeagus. In some respects (elytral markings, habitat and behavior), they are strongly reminiscent of some *Cylindera* species of the subgenus *Plectographa*, and it is understandable why HORN (1899) at first compared *balzani* with the species *Cylindera* (*Plectographa*) *drakei* (W. Horn, 1892). However, the peculiar morphology of the inner sac of the male aedeagus clearly demonstrates that these species are close relatives of *Brasiella*, even if quite apart from all other species of this genus. To minimize the number of genera derived from the breaking up of the previous and immense genus *Cicindela* Linné, 1758 (*sensu auctorum*), RIVALIER (1953, 1954) placed *balzani* in the genus *Brasiella*, together with three other "aberrant" species (*chlorosticta* Kollar, 1836, *anulipes* W. Horn, 1897, and *staudingeria* W. Horn, 1915) which subsequently have been included in a separate subgenus, *Gaymara* Freitag and Barnes, 1989. Another *Gaymara* species, *paranigroreticulata* Freitag and Barnes, 1989, is also remarkable by its setose elytra, so we retain both *balzani* and *rotundatodilata* in *Brasiella* and tentatively ascribe them to the subgenus *Gaymara* (herein considered as a subgenus of *Brasiella*).

DISTRIBUTION AND ECOLOGY - *B. balzani* has been collected so far at ten sites in Ecuador, three sites in Peru and twenty-five sites in Bolivia. All these localities are between 380 and 1400 m elevation along the base of east slope of the Andes. The habitat is dry sandy areas with little or no vegetation on higher beaches along large rivers. The beetles are extremely fast fliers and are active from early morning (08:00) to mid afternoon (16:00). Long series of specimens are difficult to collect from a single site not only because of their elusiveness but because the populations are usually sparse. Adults appear to be active throughout most of the year. Co-occurring tiger beetle species include *Pentacomia* (*Mesacanthina*) *cribrata* (Brullé, 1837), *Cicindelidia rufoaenea* (W. Horn, 1915) and *Cylindera* (*Plectographa*) *suturalis* (Fabricius, 1798). These co-occurring species, however, are most common in different microhabitats and rarely occur side by side with *B. balzani*. *P. (M.) cribrata* and *C. (P.) suturalis* are most common on wetter sand nearer the edge of the river and along isolated overflow ponds of the river. *C. rufoaenea* is usually found on beaches with gravel and larger stones interspersed with small wet sandy areas. Several species of *Tetracha* Hope, 1838, and *Phaeoxantha* Chaudoir, 1850, are also active in these habitats at night, but we have never collected *B. balzani* at night.

B. rotundatodilatata has been collected so far at thirty-eight sites, all in southern Bolivia along the base of the eastern slope of the Andes Mountains, but generally at lower elevations (300-400 m) than *B. balzani*. The habitat is dry to wet sand along large to small rivers with no vegetation. This form is active throughout the day from 07:00 to 17:00 but with a noticeable inactive period at mid-day depending on the soil temperature. Individuals, however, have been regularly collected on cloudy days at mid-day. Long series are readily collected as often the individuals are common, but also because they are slower fliers and easier to catch than *B. balzani*. As with *B. balzani*, adults appear to be active throughout most of the year. Co-occurring tiger beetle species include *Pentacomia* (*Mesacanthina*) *reductelineata* (W. Horn, 1905), *C. rufoaenea*, *Cylindera* (*Plectographa*) *mixtula*

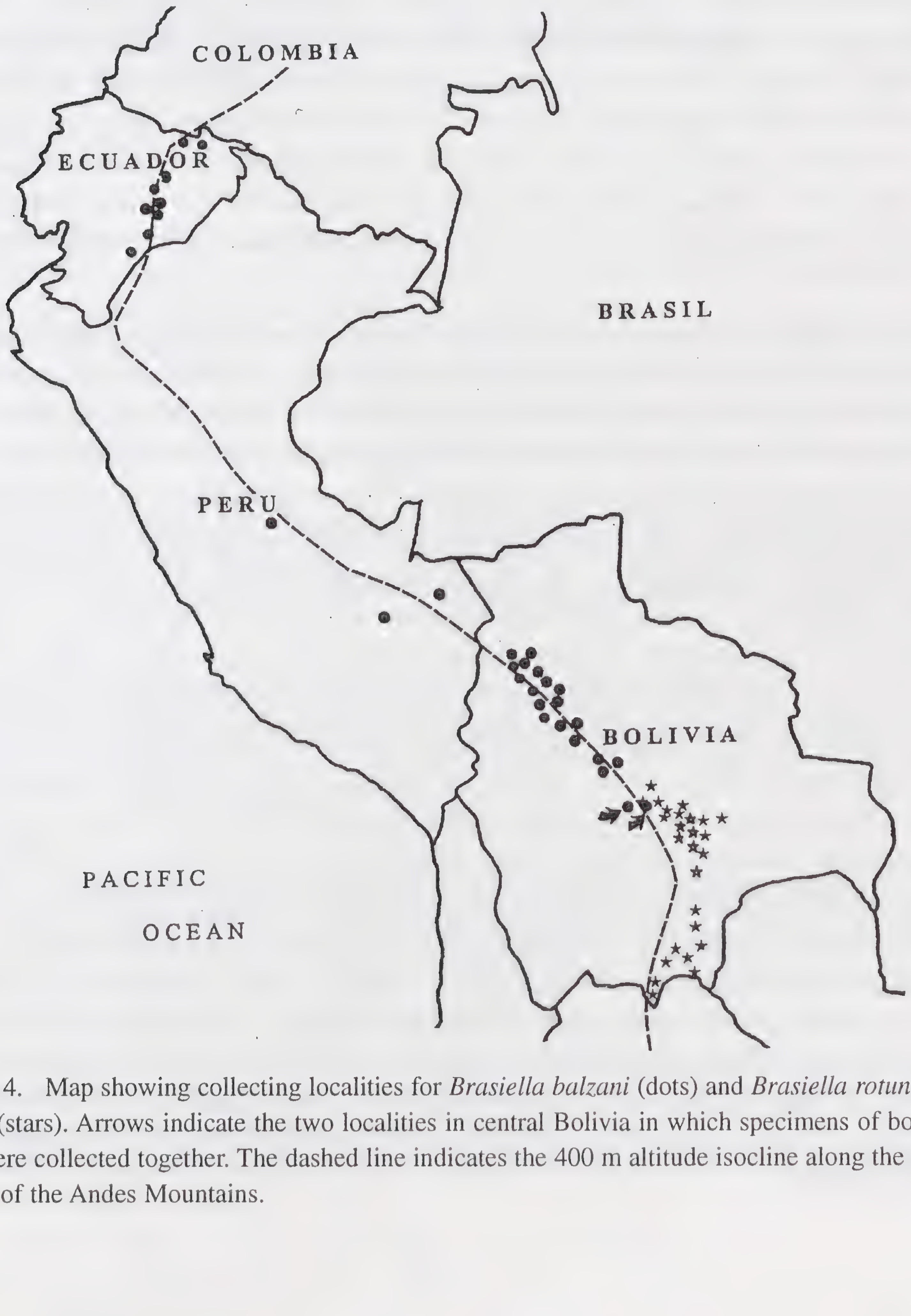

Figure 4. Map showing collecting localities for *Brasiella balzani* (dots) and *Brasiella rotundatodilatata* (stars). Arrows indicate the two localities in central Bolivia in which specimens of both species were collected together. The dashed line indicates the 400 m altitude isocline along the eastern slopes of the Andes Mountains.

(W.Horn, 1915) and *C.* (*P.*) *suturalis*. The microhabitat overlap of these species with *B. rotundatodilatata* is much greater than between *B. balzani* and its co-occurring species. Several species of *Tetracha* and *Phaeoxantha* are also active in these habitats at night, and on at least one occasion a series of *B. rotundatodilatata* was collected at night lights.

When the known collecting localities for both species are plotted on a map (Fig. 4), their linear distribution along the eastern slope of the Andes Mountains is obvious. A line indicating the 400 m elevation isocline along the eastern base of this mountain range corresponds strongly with the geographical distribution of both species, *B. balzani* tending to occur above this line and *B. rotundatodilatata* below it. Extensive collecting in similar habitats at lower elevations throughout the western Amazon Basin has failed to encounter either species. With further work in Colombia and Peru *B. balzani* will likely continue to conform to this 400 m altitudinal isocline. Future collecting in northern Argentina and perhaps extreme northwestern Paraguay also will likely find *B. rotundatodilatata* below this 400 m altitudinal isocline. Only at two sites in central Bolivia (Fig. 4) near the town of Buena Vista in the Department of Santa Cruz have both forms been found syntopic. At one site a single specimen of *B. rotundatodilatata* was collected among a long series of *B. balzani*, while at the other site the reverse was found. Subsequent attempts to collect more of the rarer form at either of these sites have failed.

DISCUSSION - Based on external morphology, morphology of male genitalia, as well as microhabitat, behavioral and biogeographical differences, we consider *B. balzani* and *B. rotundatodilatata* to be closely allied but distinct species. Most certainly they share a common ancestor, and they probably evolved isolated from each other, in northern (*B. balzani*) and southern (*B. rotundatodilata*) portions of their combined distribution. The original ancestor populations may have been separated into two isolated populations by Quaternary phenomena. FREITAG & BARNES (1989) pointed out clear evidence of vicariant events affecting other tiger beetle species occurring along the eastern slopes of the Andes Mountains. These events during the late Pleistocene evidently formed small refugia wedged between the eastern slopes of the Andes and the western edges of the Amazon forest in Bolivia, Peru and Ecuador. Here several species, including *B. balzani* and *B. rotundatodilatata*, appear to have become adapted to a narrow north-south range of habitats that could then be relatively easily interrupted by a barrier to dispersion. If in place for a sufficiently long period, this barrier could lead to genetic isolation of the two populations and eventually speciation. The co-occurrence of individuals of both *balzani* and *rotundatodilatata* at two sites at least in central Bolivia can be explained as secondary and recent zones of contact following the removal of whatever barrier separated the two populations previously. That the two species do not exhibit zones of intergradation and, even when they are sympatric, apparently do not hybridize to form intergrade individuals reinforces the concept of their status as distinct species.

ACKNOWLEDGMENTS

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MATERIAL EXAMINED

Brasiella (Gaymara) balzani (Horn, 1899), **new combination**

Cicindela balzani W. Horn, 1899

Specimens examined: 304

ECUADOR

"Ecuador" (Horn 1899, **type locality**).

SUCUMBIOS. Baeza-Lago Agrio rd., Río Aguarico, 00°04N-77°16W, 520 m, 19.IX.1995, DWB; 39 km E Lago Agrio, 00°05S-76°31W, 13.II.1982, W.D. Fitch.

NAPO. Puerto Misahualli, 01°03S-77°41W, 450m, 18.VIII.1982, R. Hensen/A. Aptroot.

PASTAZA. 21.3 km NW Puyo, 01°16S-76°58W, 960m, 23.IX.1993, DWB; Puyo-Baños rd., 17.8 km NW Puyo, Río Pastaza, 01°24S-77°47W, 20.X.1997, DWB. Jibaria Shurupe, 01°54S-77°49W, 850m, 20.IX.1993, DLP; Puyo-Macas rd., Río Pastaza, 01°55S-77°47W, 775 m, 26.IX.1995, DWB.

MORONA SANTIAGO. Puyo-Macas rd., Río Upano, 01°56S-77°47W, 1040 m, 24.IX.1995, DWB; Sevilla Don Bosco (Macas), 02°18S-78°06W, 840 m, 21.IX.1993, DLP; 1 km SE Méndez, 02°42S-78°18W, 440m, 22.X.1995, DLP (dark specimen with only humeral and apical lunules).

PERU

HUANUCO. Tingo Maria, 09°17S-76°00W, 650 m, 19.VI.1982, M. Wasbauer.

MADRE DE DIOS. Iberia, 11°24S-69°33W, 348 m, 15.VIII.1975, Bauer-Lobin-Post leg.

AYACUCHO. "Südperu, Sivia, 23.V.1936" (reported by Mandl 1941) [Río Sivia, tributary of Río Apurimac, 12°30S-73°51W, ca. 500 m].

BOLIVIA

BENI. "Rio Beni; La Paz-Reyes, Balzan 1891" (reported by Horn 1899, **type locality**) [Ballivián, Reyes, 14°17S-67°21W], one female, MSNG (**lectotype**). Ballivián: 5.3 km S Rurrenabaque, 14°29S-67°29W, 22.XI.1994, DWB (lighter ground color); 57.7 km N Yucumo, 14°40S-67°13W, 23.XI.1996, DWB (lighter ground color); Río Instituto, 10 km N of Yucumo, 15°00S-67°05W, 21.XI.1994, DWB/JFG (lighter ground color); RíoYucumo, Yucumo, 15°07S-67°05W, 21.XI.1994, DWB/JFG (lighter ground color); Río Yucumo, W Yucumo, 15°09S-67°02W, 260 m, 25.XI.1996, DWB/JFG (lighter ground color); 3 km W Río Yucumo, 15°10S-67°01W, 300 m, 25.XI.1996, DWB (lighter ground color).

LA PAZ. Iturralde: Río Tequeje, 8.3 km SE Ixiamas, 13°46S-68°22W, 29.XI.1994, DWB/JFG;

Tumupasa, 14°07S-67°55W, XII (reported by Horn 1931 and Mandl 1958); Río Caijeni, 2 km NW San Buenaventura, 14°47S-67°59W, 27.XI.1994, DWB/JFG; Alto Mididi, 28.IX.1990, JFG. Larecaja: Río Mapiri, 15°17S-68°11W, VIII.1989; Río Mapiri, 15°17S-68°11W, 9.IV.1991, JFG; 23 km E Consata, Río Incachaca, 15°17S-68°26W, 630 m, 16.XI.1996, DWB. Sud Yungas: Río Alto Beni, W Sapecho, 15°33S-67°22W, 300 m, 22.XI.1996, DWB; Río Bopi, Cotapata, W La Asunta, 15°59S-67°10W, 610 m, 29.XI.1996, DWB; 2 km NE La Asunta, 16°06S-67°11W, 620 m, 30.XI.1996, DWB; La Asunta, Río Bopi, 16°08S-67°11W, 3-4.III.1995, JFG; Río Bopi, 700m, 1.5 km SW La Asunta, 16°08S-67°11W, 28.XI.1996, DWB; La Asunta, 16°08S-67°11W, 27.IV.1990, JFG/E. Penarandu; 38.5 km SW La Asunta, 16°17S-67°17W, 730 m, 30.XI.1996, DWB; 41 km SW La Asunta, 16°18S-67°17W, 780 m, 28.XI.1996, DWB.

COCHABAMBA. Chapare: 37 km NW Villa Tunarí, camino a Puerto Patino, 16°36S-65°19W, 27.XI.1995, DWB; Río Chipiriri, 9.7 km NW Villa Tunarí, camino a Puerto Patino, 16°37S-65°47W, 320 m, 27.XI.1995, DWB; Chapare, 1 km S Río Chimore, 16°37S-65°47W, 320m, 26.XI.1995, DWB. Carrasco: Río Coni, camino a Cochabamba, 16°51S-65°08W, 350 m, 26.XI.1995, DWB; Valle de Sajta, Río Sajta (SE Chimori), 16°52S-64°46W, 28.XI.1992, DWB; Cesarzama, 17°15S-64°14W, 28.XI.1992, JFG.

SANTA CRUZ. Ichilo: 4.5 km S Río Yapacani, camino a Cochabamba, 17°22S-63°50W, 350 m, 25.XI.1995, DWB; Campamento Ichilo, 17°24S-64°14W, 23.IV.1996, JG [common form with single specimen of *B. rotundatodilatata* collected at same site]; 3 km SE Buenavista, Rio Surutu, 17°29S-63°42W, 310m, 15.II.1994, RDW [single specimen collected at same site as abundant *B. rotundatodilatata*!].

Brasiella (Gaymara) rotundatodilatata (W. Horn, 1925), **new rank, new combination**

Cicindela Balzani W. Horn ssp. *rotundato-dilatata* W.Horn, 1925

Specimens examined: 461

BOLIVIA

SANTA CRUZ. "Sara, near Santa Cruz de la Sierra, in an elevation of c. 1500-1700 feet, I-IV.1904, XI-XII.1922, I.1923, J. Steinbach" (reported by Horn 1925, **type locality**) [Sarah (Gutierrez), Santa Rosa del Sara, 17°10S-63°31W, 450-515 m]. Santiesteban: Rio Pirai at Potachuelo, 17°12S-63°21W, 1.X.1994, RDW; Río Pirai, W Montero, km 61, 17°12S-63°21W, 320 m, 24.XI.1995, DWB; Saavedra CIMCA, 17°15S-63°08W, 15.XI.1989, L. Voloz; 7 km W Guabira, Rio Pirai, 17°20S-63°20W, 280 m, 16.II.1994, RDW. Ichilo: Río Ichilo, 17°00S-64°21W, 21.III.1994, JFG; Buenavista, Rio Surutú, 17°14S-63°52W, 21.III.1994, JG; Río Yapacani, SE Yapacani, 17°20S-63°50W, 29.XI.1992, DWB; 5 km E Buenavista, 17°23S-63°35W, 13.XII.1995, DLP; Buena Vista, 17°23S-63°38W, 400 m, 2.X.1994, night light, RDW; Campamento Ichilo, 17°24S-64°14W, 375 m, 23.IV.1996, JG [single specimen collected at same site as abundant *B. balzani*]; 3 km SE Buenavista, Río Surutu, 17°29S-63°42W, 310m, 15.II.1994, RDW [common form collected at same site as single specimen of *B. balzani*!]; 6 km W Buenavista, 17°29S-63°42W, 297 m, 13.XII.1995, DLP; Parque Nacional Amboré, Matacoro, 17°34S-63°47W, 17.IX.1997, IG. Andres Ibañez: Río Guemdá, 17°25S-63°24W, 18.VII.1994, JFG; Río Guemdá, 17°25S-63°24W, 30.XII.1995, P. Bettella; 45 km NW Santa Cruz, 17°32S-63°05W, 400 m, 14.XI.1992, DLP; Lomas de Arena, 17°32S-63°05W, 24.XI.1988, P. Bettella; El Pailon, 46 km E Santa Cruz, 17°39S-62°45W, 16.XI.1992, DLP; 5 km N Santa Cruz, 17°48S-63°06W, 20.XI.1992, JFG; Santa Cruz, 17°49S-63°06W, 500m, 2.XII.1955, R. Zischka; Santa Cruz, 17°49S-63°06W, XII.1972, R. Zischka; Santa Cruz, 17°49S-63°06W, 450-500m, XI-I (reported by Mandl 1958); Santiago del Torno, 17°50S-63°23W, 21.XII.1993, JFG; Río Pirai, El

Torro, 17°50S-63°23W, 20.XI.1992, DWB; 10 km SW Santa Cruz, 17°51S-63°10W, 12.XI.1992, DLP; 16 km SW Santa Cruz, 17°52S-63°11W, 13.XI.1992, DLP; Río Pirai, La Guardia, 17°55S-63°19W, 10.XII.1995, DWB; Río Pirai, camino a Espejos, 17°58S-63°25W, 20.XI.1992, DWB; El Torno, Río Pirai, 18°00S-63°20W, 21.XII.1993, DWB; Río Pirai, 18°00S-63°20W, 29.IX.96, W.Rossi; Río Pirai, Limoncito, 18°01S-63°31W, 27.XII.1993, DWB; 7 km W Jorochito, 18°03S-63°29W, 27.XII.1993, DWB. Florida, 9 km E Mairana, 18°07S-63°40W, 26.XI.1992, JFG; 9 km W Mairana, Río Mairana, 18°07S-63°57W, 26.XI.1992, DWB; 9 km W Mairana, Río Mairana, 18°07S-63°57W, 26.XII.1993, DWB; Bermejo, Río Samaipata, 18°11S-63°30W, 25.XI.1992, DWB; Bermejo, 18°11S-63°30W, 25.XI.1992, JFG. Cordillera: Río Grande, Abapó, 19°54S-63°54W, 605 m, 7.XII.1995, DWB.

CHUQUISACA. Tomina: Río Azero, 19°12S-63°57W, 9.V.1990, JFG; H. Siles Azero, 19°12S-63°57W, 29-30.IV.1992, J. Corro. Luis Calvo: 1 km S Camatindi, 20°55S-63°25W, 16.I.1995, DLP.

TARIJA. Gran Chaco: 5 km W Villamontes, 21°20S-64°59W, 400 m, 14.I.1995, DLP; 6 km W Villamontes, 21°20S-64°50W, 380 m, 14.I.1995, DLP; 15 km W Cañadas, 21°21S-64°51W, 910 m, 17.I.1995, DLP; 30 km N Yacuiba, 21°43S-63°40W, 13.I.1996, JFG. O'Connor: 30 km SE Entre Rios, 21°40S-64°40W, 10.I.1995, DLP. Arce: 3 km N Emboruzú, 22°17S-64°33W, 7.I.1995, JFG; San Telmo de Loma, 22°32S-64°27W, 22-25.VII.1996, JFG; 5 km E Bermejo, 22°37S-64°11W, 8.I.1995, JFG.

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ABSTRACT

Cicindela rotundatodilatata was originally described by Horn (1925) as subspecies of the species *Cicindela balzani* Horn, 1899. In an examination of 304 specimens of *balzani* from Ecuador, Perú and northern Bolivia and 461 specimens of *rotundatodilatata* from central and southern Bolivia the two forms differed consistently and significantly in elytral markings, elytral shape, ground color, body length, male genitalia, behavior and habitat. We found no evidence for hybridization or intergradation, even at two sites where the two forms occurred syntopically. On the basis of this morphological and natural history evidence, we consider *balzani* and *rotundatodilatata* to be separate species and tentatively place them in the genus *Brasiella*, subgenus *Gaymara*. The lectotype specimen of *B.* (*G.*) *balzani* (W. Horn, 1899) is also designated, based on the female specimen in the collection of the Museo Civico di Storia Naturale "G. Doria", Genova, Italy.

RIASSUNTO

Cicindela rotundatodilatata fu originariamente descritta da Horn (1925) come sottospecie di *Cicindela balzani* Horn, 1899. Esaminando 304 esemplari di *balzani* dell'Ecuador, Perú e Bolivia settentrionale e 461 esemplari di *rotundatodilatata* della Bolivia centrale e meridionale, abbiamo potuto constatare che le due forme differiscono in modo consistente e significativo nel disegno elitrale, nella forma delle elitre, nella colorazione generale, nella lunghezza del corpo, nei genitali maschili, nel comportamento e nell'habitat. Non sono stati viceversa rinvenuti segni di ibridazione o intergradazione, neanche nelle due località dove le due forme sono state ritrovate insieme. Sulla base di questi elementi sia morfologici che biologici, consideriamo pertanto *balzani* e *rotundatodilatata* due specie diverse, collocabili tentativamente nel genere *Brasiella*, sottogenere *Gaymara*. Inoltre viene designato il lectotipo di *B.* (*G.*) *balzani* (W. Horn, 1899), in base all'esemplare femmina conservato nel Museo Civico di Storia Naturale "G. Doria", Genova, Italy.

RESUMEN

Cicindela rotundatodilatata fue descrita originalmente por Horn (1925), como una subespecie de la especie *Cicindela balzani* Horn, 1899. Al examinar 304 ejemplares de *balzani* del Ecuador, Perú y del norte de Bolivia y 461 ejemplares de *rotundatodilatata* del centro y sur de Bolivia, se encontró que las dos formas diferían consistente y significativamente en las manchas elytrales, en la forma elytral, en el color general, en la longitud del cuerpo, en los genitales masculinos, en el comportamiento y en el hábitat. Nosotros no encontramos evidencia de hibridación o intergradación, aún en dos sitios donde las dos formas ocurrían juntas. Basados en esta evidencia morfológica y de historia natural, nosotros consideramos que *balzani* y *rotundatodilatata* son especies diferentes y recomendamos colocarlas tentativamente en el género *Brasiella*, subgénero *Gaymara*. Se designa el lectotipo de *B.* (*G.*) *balzani* (W. Horn, 1899) con base a la hembra de la colección del Museo Civico di Storia Naturale "G. Doria," Genova, Italia.